
**Vincent Massey High School
Biology 42S
Course Outline
2008-09**

Course Title: Biology 42S

School Year and Semester: 2008-09 Semester II

Teacher: Mrs. L. Metruk

Course Description: This course is the final part of three courses in preparation for the AP exam and university studies in Biology. In part the course is seminar based where the students will prepare material to help their peers review the entire three courses. The main topics covered will be Plant Form and Function, Ecological Principles, Animal Systems, and a review of Comparative Systems. In addition to writing the AP exam, students will be entered into the University of Toronto Biology Competition.

General Learning Outcomes:

- Students will develop an understanding of the Form and Function of Plants.
- Students will develop an understanding of the complexity of plants and their importance to humans with current applications in biotechnology.
- Through the study of Ecological Principles, students will gain an awareness of the interconnectedness of all organisms on the earth.
- Students will examine the current state of Global Ecosystems with particular emphasis on current issues such as climate change.
- Students will develop an understanding of comparative organ systems in the animal kingdom.
- Students will gain awareness that Biology is a dynamic area of study that is constantly changing as a result of new discoveries.
- Students will gain an awareness of the role of humans in shaping the biodiversity of the earth.
- Students will gain an awareness of the interconnectedness of all organisms on the earth.

Course Evaluation Structure:

- 10% Plant Form and Function
- 10% Principles of Ecology
- 10% Comparative Systems
- 10% Animal Systems
- 30% Summative Seminar Presentations
- 30% Final Exam (mock AP)

Course Final Standing:

- All marks in the course will be cumulative.
- The course mark will stand alone separate from the mark the students achieve in the AP exam.

Resource:

Campbell and Reece: Biology

Unit Descriptions

Unit 1 Title: Plant Form and Function

Reece and Campbell. Chapters 35-39

Approximate Instructional Time for Unit of Study: 4 weeks

Learning Outcomes:

- Students will examine Plant Structures and Growth Patterns.
- Students will examine Transport in Plants.
- Students will examine Plant Nutrition.
- Students will examine Plant Reproduction and Biotechnology.
- Students will examine Plant responses to Internal and External Signals

Assessment and Evaluation:

1 Unit Test

Unit 2 Title: Ecology

Reece and Campbell. Chapters 50-55

Approximate Instructional Time for Unit of Study: 2 weeks

Learning Outcomes:

- Students will examine the scope of Ecology.
- Students will examine factors affecting the distribution of organisms.
- Students will examine Animal Behaviour.
- Students will examine Population Ecology.
- Students will examine Community Ecology.
- Students will examine Ecosystems.
- Students will examine Conservation Biology.

Assessment and Evaluation:

1 Unit Test

Unit 3: Comparative Systems

Reece and Campbell. Chapters 40 – 49

Approximate Instructional Time for Unit of Study: 2 weeks

Learning Outcomes

- Students will review the concepts examined in Bio30SA on how representative organisms solve the problems of living on this planet.

Assessment and Evaluation

1 Unit Test

Unit 4: Animal Systems

Reece and Campbell. Chapters 32 – 34

Approximate Instructional Time for Unit of Study: 2 weeks

Learning Outcomes:

- Examine the types of evidence used to classify animals.
- Compare the characteristics of major animal phyla (e.g. how they acquire energy and reproduce).
- Suggest an evolutionary pathway for animals from simple unicellular to complex multicellular
- Students will develop a spreadsheet to compare the solutions shown by the different animal phyla.

Assessment and Evaluation:

1 Unit Test

Unit 5: Summative Seminars

Approximate Instructional Time for Unit of Study: Continuous throughout semester

Learning Outcomes

- Students will prepare structured presentations of material for their peers to be used as study guides.
- Students will be given the opportunity to develop their skills of synthesis and analysis.

Assessment and Evaluation

Summative Presentations during the semester